
9.9 Exception Summary

Table 9-6 summarizes the exceptions recognized by the 386.

Table 9-6. Exception Summary

Description	Interrupt Number	Return Address Points to	Exception Type	Function That Can Generate the Exception
Divide error	0	YES	FAULT	DIV, IDIV
Debug exceptions	1	Some debug exceptions are traps and some are faults. The exception handler can determine which has occurred by examining DR6. (Refer to Chapter 12.)		
Some debug exceptions are traps and some are faults. The exception handler can determine which has occurred by examining DR6. (Refer to Chapter 12.)				Any instruction
Breakpoint	3	NO	TRAP	One-byte INT 3
Overflow	4	NO	TRAP	INTO
Bounds check	5	YES	FAULT	BOUND
Invalid opcode	6	YES	FAULT	Any illegal instruction
Coprocessor not available	7	YES	FAULT	ESC, WAIT
Double fault	8	YES	ABORT	Any instruction that can generate an exception
Coprocessor Segment Overrun	9	NO	ABORT	Any operand of an ESC instruction that wraps around the end of a segment.
Invalid TSS	10	YES	FAULT	

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An invalid-TSS fault is not restartable if it occurs during the
processing of an external interrupt.        JMP, CALL, IRET, any interrupt
Segment not present       11          YES             FAULT         Any segment-register modifier
Stack exception           12          YES             FAULT         Any memory reference thru SS
General Protection        13          YES             FAULT/ABORT
All GP faults are restartable. If the fault occurs while attempting to
vector to the handler for an external interrupt, the interrupted program is
restartable, but the interrupt may be lost.  Any memory reference or code
fetch
Page fault                14          YES             FAULT         Any memory reference or code
fetch
Coprocessor error         16          YES             FAULT
Coprocessor errors are reported as a fault on the first ESC or WAIT
instruction executed after the ESC instruction that caused the error.        ESC, WAIT
Two-byte SW Interrupt     0-255       NO              TRAP          INT n
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